EDITORIAL
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Year's comments for 2007

Every year, the Editorial of the December issue, in addition to reporting on the activities and impact of INTERNATIONAL MICROBIOLOGY, provides a vision of what is going on in the field of microbiology worldwide. During the year, not only are thounsands of articles dealing with microbiology issues published in the academic and clinical literature, but microbiology has also become the frequent focus of the mass media. This year's comments on a few reports and news items are not meant to imply that we consider them to be the only highlights of the year; rather, they are meant to be snapshots of work that, for various reasons, has particularly attracted our attention.

Nature devoted an *Insight* supplement [Nature 449, issue 7164, 18 October 2007] to host–microbe interactions, focusing on the relationships between humans and bacteria. The feature article, by Turnbaugh et al. [doi: 10.1038/nature06244], discussed the goals and experimental challenges of the Human Microbiome Project. In their article, the authors consider the human body as a composite of microbial and human cells, in which the genes contained in the human genome and those of the microbiome—the microorganisms that live inside or on the human body—together make up the human genetic landscape. In this respect, human metabolic features comprise both human and microbial traits, which must be studied using an ecological approach that defines the concept of habitat at scales ranging from the whole body to specific surface areas, such as the gut or a given region within the gut.

Other aspects dealt with in this *Nature Insight* were the evolution of human–microbe mutualism and disease; an integrated view of the immune system and its function in host defense; how bacterial pathogens subvert host–cell pathways; and bacterial pathogenomics, which is the product of genomic as well as bacterial pathogenesis research. Genomics has shown that there are no clear boundaries between pathogens and non-pathogens or between virulence factors and colonization factors. Pathogenomics has provided what is called an "eco-evo" perspective on host–pathogen interactions. Seen in this light, it becomes clear that ecology has been and continues to be a driving force in the evolution of pathogenesis and that the evolutionary history of a pathogen can explain some of the features of its genome. In fact, at an earlier time, current pathogens might well have been commensal organisms.

In October, the World Health Organization (WHO) released the report "A Safer Future: Global Public Health Security in the 21st Century", which outlined the need to control emerging diseases [http://whqlibdoc.who.int/publications/2007/9789241563444_eng.pdf on October 2007]. The report warned about the threat of infectious diseases, which are now spreading geographically much faster than at any time in history. The number of airline passengers has increased dramatically, to around 2.1 billion in 2006. Thus, the chances that an infectious disease occurring in a given part of the world will spread to other regions of the planet have likewise increased, placing unprecedented demands on the capabilities of physicians and health care systems. The WHO therefore recommended increasing public health security, including full implementation of the revised International Health Regulations, by all countries as well as global cooperation in surveillance and outbreak alerts and responses. According to the report, knowledge, technologies, and materials—including viruses and samples—must be shared to secure global health. Training, surveillance,

laboratory capacity, response networks, and public health campaigns require increased international and national resources.

Malaria has remained a scourge of developing countries. Around 3.2 billion people, almost half the world's population, in 100 countries, live in malaria-endemic areas, where between 350 million and 500 million clinical cases per year occur. One of the main goals of any malaria vaccine should be the protection of infants and children ages 1–4, as in malaria-stricken regions they make up the group with the highest risk of contracting the disease and dying from it. Last year, our journal published a review article by Pedro Alonso [Int. Microbiol. 9:83-93, June 2006] on the development of the candidate malaria vaccine RTS,S/AS02A, and the trial that his team was carrying out in Mozambique, one of the poorest countries in the world. On November 2007, *The Lancet* published the results of the trial with the most recent candidate RTS,S/AS02D, which has proven to be safe, immunogenic, and partly protective against infection in infant populations. In most areas with stable malaria transmission, severe malaria infection among children under the age of 2 and death rates from the disease within this group are extremely high. The candidate vaccine RTS,S/AS02D, while not yet the panacea in the fight against malaria, nonetheless offers hope for new, more effective vaccines.

Last, but not least, let us mention an article published in our journal that was cited in the Editor's Choice page of *Science* [Big bacteria sightings, Science 317:723, 10 August 2007]. In the article that merited the *Science* comment, Víctor A. Gallardo and Carola Espinoza [Int Microbiol 10:97-102, June 2007] reported the finding of new communities of large filamentous sulfur bacteria with lengths reaching several hundreds and at times several thousands of micrometers. That article contained supporting online information, consisting of 209 micrographs widely illustrating the various morphologies and sizes of these bacteria.

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The phenomenon of blogs as a means to express opinions, exchange information and points of view, and debate with those sharing one's interests, has "infected" the field of microbiology. However, the content of many blogs—and that of the web at large—must be read with a large dose of caution. That is certainly not the case of "Small Things Considered" [http://schaechter.asmblog.org/schaechter/], the blog that Moselio Schaechter started in November 2006 and which he has maintained in collaboration with Merry Youle. This crown jewel of the Blogosphere—whose name American readers will surely identify with a popular radio news program in the US, "All Things Considered," broadcast on the National Public Radio Network for more than 35 years—provides a lively forum where microbiologists can share their ideas and opinions. The site has become a reference and an excellent source of current information not only for microbiologists but also for microbiology students. The periodic "Talmudic Questions" posed by Schaechter or a guest contributor serves to generate discussions on topics that range from what would happen to Earth if bacteria and archea immediately stopped their metabolism and where on Earth one would expect to find a single microbial species (as in axenic culture), to why only prokaryotes are known to carry out nitrogen fixation and bacteria do not produce methane. Schaechter's desire to share his "appreciation for the width and depth of the microbial activities on this planet" has been indeed achieved through his blog. Along with J.L. Ingraham and F.C. Neidhardt, Schaechter was an invited lecturer to the 21st National Congress of the Spanish Society for Microbiology (SEM), held in Seville in September 2007 [see report on p. 291-294 of this issue]. These three prominent microbiologists are the coauthors of *Microbe*, a textbook on general microbiology published by ASM Press in 2006. *Microbe* continues the tradition of a textbook published 50 years ago, *The Microbial World*, by R.Y. Stanier, M. Doudoroff and E.A. Adelberg, which changed the approach to teaching and research in microbiology [Guerrero & Berlanga, Int. Microbiol. 10:157-168, September 2007]. *Microbe* has been translated into Spanish by several SEM members and will soon be released by Editorial Reverté. SEM members will have the opportunity to buy the book directly from the publisher at a reduced price. A Catalan version of the book is also underway as part of a collection of university textbooks called *Scriptorium* Project.

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In 2006, we were pleased to announce that INTERNATIONAL MICROBIOLOGY had received its first impact factor (IF) from ISI-Thomson Scientific, which was 1.868. Moreover, the journal ranked fourth (out of 30) in the list of Spanish scientific and technological journals included in ISI-Thomson's *Journal Citation Reports* in 2005. The news this year is even better: the journal's IF has increased to 2.455, and INTERNATIONAL MICROBIOLOGY ranks higher in the Thomson lists of Microbiology and Biotechnology & Applied Microbiology journals. The journal's high IF, along with our policy of Open Access (the articles are free to everybody and can be downloaded as soon as they are published online), might account for the increased number of manuscripts received in 2006, a trend that has continued over

2007. Unfortunately, the increase in the number of manuscripts received does not always mean a parallel increase in quality. In 2007, 260 manuscripts were submitted to the journal, of which only 32 were published and 16 are now in the process of evaluation. Of the articles published (reviews, research articles, and research notes), 24 (75%) were from teams working in Spanish universities or research centers; the rest were from Germany, Japan, Canada, Brazil, and Chile. While INTERNATIONAL MICROBIOLOGY seeks to publish high-quality articles by researchers from all over the world, a particular aim of the journal is to publicize microbiological research of excellence undertaken in Spanish, Portuguese, and Latin American laboratories.

One of the main indicators of the quality of a scientific journal is its ability to provide competent and fair peer review. However, peer review cannot guarantee truthfulness and ethical compliance by the author(s) nor does it validate the work's methodology or certify that the work reviewed has not been published elsewhere; still, it remains the best means to assess and control the quality of articles submitted to scientific journals [Balistreri WF (2007) Landmark, landmine, or landfill? The role of peer review in assessing manuscripts. J Pediatr 151:107-108]. Peer review has been said to be the worst form of manuscript assessment except for all others that have been tried, as well as an "anonymous gift" [Edmunds LH Jr (2004) A gift from Anonymous. Ann Thorac Surg 77:10-11]. I would add that, regardless of its flaws, peer review is a priceless gift, the "pro bono" work carried out by scientists to evaluate their colleagues' research and its presentation. In 2007, more than 90 researchers participated as peer reviewers in the evaluation process for INTERNATIONAL MICROBIOLOGY; the names of most of them are listed on p. 304 of this issue. We want to thank our reviewers for their invaluable contribution. Their efforts, together with those of the members of the journal's Publication and Editorial Boards, sustain INTERNATIONAL MICROBIOLOGY, every issue of which is a collective "labour of love" for microbiology and for science at large.